

PATENT ABSTRACTS OF JAPAN

AA

(11)Publication number : 01-204425

(43)Date of publication of application : 17.08.1989

(51)Int.Cl.

H01L 21/302
C23F 4/00
H01L 21/66
H01L 33/00

(21)Application number : 63-027591

(71)Applicant : TOYOTA CENTRAL RES & DEV LAB
INC

(22)Date of filing : 10.02.1988

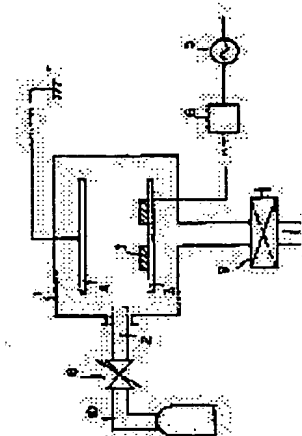
(72)Inventor : HASHIMOTO MASAFUMI

(54) DRY ETCHING METHOD OF ALXGA1-XN

(57)Abstract:

PURPOSE: To perform etching readily at a high speed without deteriorating the surface of a crystal, by introducing CF₄ gas as a gas, and etching an Al_xGa_{1-x}N wafer mounted on one electrode with plasma that is generated by the application of high frequency power.

CONSTITUTION: Two electrodes 3 and 4 which are arranged in a facing pattern are insulated from a vacuum container with an insulator such as Teflon. High frequency power is applied to the electrode 3 on which an Al_xGa_{1-x}N wafer is mounted from a high frequency power source 5 through a matching device 6. The other electrode 4 is grounded. After remaining gas is sufficiently exhausted with an exhausting means, CF₄ gas is introduced. The pressure of etching gas is adjusted with a conductance valve 9. When the high frequency power is applied to the electrode 3, glow discharge is generated, and etching is started. Especially, when the electrode of a blue light emitting diode which is obtained by laminating AlN and GaN on sapphire is provided on the same side, i.e., the surface side, etching characterized by excellent reproducibility and controllability can be performed.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]